

	A	B	C	D	E	F	G
1		TABLE 1 - 12/28/11					
2		FIELD AND QC SAMPLING SUMMARY					
3		DIMOCK RESIDENTIAL GROUNDWATER SITE					
4		DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA					
5	Lab	Parameter/Method	Matrix	Field Samples	Bkgd	QC	
6						Dup	Trip¹ Blanks
7	Ft. Meade	Alkalinity (SM 2320B) (Total Hardness, HCO ₃ , CO ₃) (2320B, 2340B)	drinking water	60	0	6	0
8	Ft. Meade	Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)	drinking water	60	0	6	0
9	Ft. Meade	Anions, Chloride, Bromide, Fluoride, Nitrate/Nitrite as N, Orthophosphorus as P, Sulfate as SO ₄ (300.0)	drinking water	60	0	6	0
10	TechLaw	Bacteria (total coliform, HPC)	drinking water	60	0	6	0
11	Isotech	d ¹³ C and d ² H of methane (isotech)	drinking water	10	0	0	0
12	Isotech	d ¹³ C of inorganic carbon (isotech)	drinking water	10	0	0	0
13	Isotech	Complete compositional analysis of headspace gas (isotech)	drinking water	10	0	0	0
14	Isotech	Diss. gases methane, ethane, ethene (isotech)	drinking water	10	0	0	0
15	TechLaw	Dissolved Gases, Methane, Ethane, & Ethene (RSK-175)	drinking water	60	0	6	0
16	TechLaw	Ethylene Glycol (8015M)	drinking water	60	0	6	0
17	?	DRO (8015M)	drinking water	60	0	6	0
18	?	GRO (8015M)	drinking water	60	0	6	0
19	TechLaw	Gamma Spec (K-40, Ra-226, Ra-228, Th-232, Th-234, U-234, U-235, U-238) (901.1)	drinking water	60	0	6	0
20	Ft. Meade	Glycols incl. 2-Butoxyethanol (8316)	drinking water	60	0	6	0
21	TechLaw	Gross Alpha/Beta (900.0)	drinking water	60	0	6	0

	A	B	C	D	E	F	G
22	Ft. Meade	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V, K, Hg (200.8/245.1)	drinking water	60	0	6	0
23	Ft. Meade	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V, K, Hg (200.8/245.1)	Filtered drinking water	60	0	6	0
24	TechLaw	Methylene Blue Active Substances (MBAS) (SM 5540C)	drinking water	60	0	6	0
25	Ft. Meade	Nitrate/Nitrite (353.2)	drinking water	60	0	6	0
26	TechLaw	Oil & Grease (HEM) (1664A)	drinking water	60	0	6	0
27	Ft. Meade	pH (9040C)	drinking water	60	0	6	0
28	Ft. Meade	Phosphorus, Total (365.1)	drinking water	60	0	6	0
29	TechLaw	Ra-226 (903.1)	drinking water	60	0	6	0
30	TechLaw	Ra-228 (904.0)	drinking water	60	0	6	0
31	Ft. Meade	Semi-Volatiles (TCL plus TICs) (CLP Trace plus TICs) (OLC03.2)	drinking water	60	0	6	0
32	Ft. Meade	Solids, Total Dissolved (TDS) (2540C)	drinking water	60	0	6	0
33	Ft. Meade	Solids, Total Suspended (TSS) (2540D)	drinking water	60	0	6	0
34	Isotech	Stable isotopes of water (O,H) (isotech)	drinking water	10	0	0	0
35	TechLaw	Turbidity, Nephelometric (180.1)	drinking water	60	0	6	0
36	TechLaw	2-Methoxyethanol (8015B)	drinking water	60	0	6	0
37	TechLaw	1-methylnaphthalene (8270 or equivalent)	drinking water	60	0	6	0
38	Ft. Meade	Volatiles Incl. Acrylonitrile (TCL plus TICs) (CLP Trace - 0.5 ug/L QL) (OLC03.2)	drinking water	60	0	6	1 per cooler
39		Notes:					
40		1. This QA sample will be an aqueous matrix.					
41		sampling equipment is used.					
42		3. Estimate based on 5 sampling days					
43		Key:					
44		Bkgd = Background	QA/QC = Quality assurance/quality control				

	A	B	C	D	E	F	G
45		MS/MSD = Matrix Spike/Matrix Spike Duplicate	Sr = Strontium				
46		CRQL = Contract-Required Quantitation limit.					
47		Dup = Duplicate					
48							
49							
50							

	H	I	J	K	L	M	N	O
1								
2								
3								
4	NIA							
5	Sample Summary			Total Field and QA/QC Analyses (not including MS/MSD) ³				
6	Rinsate ^{1,2} Blanks	Field ¹ Blanks	MS/MSD					
7	0	5	0	71				
8	0	5	3	71				
9	0	5	0	71				
10	0	5	0	71				
11	0	0	0	10				
12	0	0	0	10				
13	0	0	0	10				
14	0	0	0	10				
15	0	5	0	71				
16	0	5	0	71				
17	0	5	0	71				
18	0	5	0	71				
19	0	5	0	71				
20	0	5	0	71				
21	0	5	0	71				

	H	I	J	K	L	M	N	O
22	0	5	6	71				
23	0	5	6	71				
24	0	5	0	71				
25	0	5	0	71				
26	0	5	0	71				
27	0	5	0	71				
28	0	5	0	71				
29	0	5	0	71				
30	0	5	0	71				
31	0	5	3	71				
32	0	5	0	71				
33	0	5	0	71				
34	0	0	0	10				
35	0	5	0	71				
36	0	5	0	71				
37	0	5	0	71				
38	0	5	3	71 + Trip Blanks for Coolers				
39								
40								
41								
42								
43								
44								

	H	I	J	K	L	M	N	O
45								
46								
47								
48								
49								
50								

	p
1	
2	
3	
4	
5	
6	
7	
8	
9	
10	
11	
12	
13	
14	
15	
16	
17	
18	
19	
20	
21	

	p
22	
23	
24	
25	
26	
27	
28	
29	
30	
31	
32	
33	
34	
35	
36	
37	
38	
39	
40	
41	
42	
43	
44	

	p
45	
46	
47	
48	
49	
50	

	A	B	C	D	E	F	G	H
1	TABLE 2 - 12/28/11							
2	SAMPLE ANALYTICAL REQUIREMENTS SUMMARY							
3	DIMOCK RESIDENTIAL GROUNDWATER SITE							
4	DIMOCK, SUSQUEHANNA COUNTY, PENNSYLVANIA							
5	Analytical parameter and Method		Matrix		Sample Preservation		Holding Time	
6								
7	Alcohols: Ethanol, methanol, 1-propanol, 1-butanol, 2-butanol (8015D)		drinking water		Ice, 6°C		7 days	
8	Alkalinity (2320B, 2340B)		drinking water		Ice, 6°C		14 days	
9	Anions: Chloride, Bromide, Fluoride, Nitrate/Nitrate as N, Orthophosphorus as P, Sulfate as SO4 (300.0)		drinking water		Ice, 6°C		28 days	
10	Bacteria (total coliform, HPC)		drinking water		Ice, 4°C (.008% Na2S2O3 if residual Cl- present)		6 hours	
11	d13C and d2H of methane (Isotech)		drinking water		Ice, 4°C, biocide pill in sample container		6 months	
12	d13C of inorganic carbon (Isotech)		drinking water		Ice, 4°C		6 months	
13	Complete compositional analysis of headspace gas (isotech)		drinking water		Ice, 4°C, biocide pill in sample container		6 months	
14	Diss. gases methane, ethane, ethene (isotech)		drinking water		Ice, 4°C, biocide pill in sample container		6 months	
15	Dissolved Gases, Methane, Ethane, & Ethene (RSK-175)		drinking water		pH<2 with HCl and cool with ice, 4°C		7 days	
16	Ethylene Glycol (8015M)		drinking water		Ice, 4°C		7 days	
17	DRO (8105M)		drinking water		Ice, 4°C		7 days extract; 40 days analysis	
18	GRO (8105M)		drinking water		pH<2 with HCl and cool with ice, 4°C		14 days	
19	Gamma Spec (K-40, Ra-226, Ra-228, Th-232, Th-234, U-235, U-238) (901.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
20	Glycols incl. 2-Butoxyethanol (8316)		drinking water		Ice, 6°C		7 days	
21	Gross Alpha/Beta (900.0)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
22	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V, K, Hg (200.8/245.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
23	Metals: Al, Ca, Cr, Cu, Fe, Mg, Mn, Ni, Na, As, Se, Zn, Ti, Sr, Ba, Sn, Sb, Be, Cd, Co, Tl, U, V, K, Hg (200.8/245.1)		(filtered) drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
24	Methylene Blue Active Substances (MBAS) (SM 5540C)		drinking water		Ice, 4°C		48 hours	

	A	B	C	D	E	F	G	H
25	Nitrate/Nitrite (Total N) (353.2)		drinking water		pH<2, H2SO4, and cool with ice, 4°C		7 days	
26	Oil & Grease (HEM) (1664A)		drinking water		pH<2, H2SO4, and cool with ice, 4°C		28 days	
27	pH (9040C)		drinking water		Ice, 6°C		As soon as possible	
28	Phosphorus, Total (365.1)		drinking water		Ice, 6°C		28 days	
29	Ra-226 (903.1)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
30	Ra-228 (904.0)		drinking water		pH<2 with HNO3 and cool with ice, 4°C		6 months	
31	Semi-Volatiles (TCL plus TICs) (OLC03.2)		drinking water		Ice, 6°C		7 days	
32	Solids, Total Dissolved (TDS) (SM 2540C)		drinking water		Ice, 6°C		7 days	
33	Solids, Total Suspended (TSS) (SM 2540D)		drinking water		Ice, 6°C		7 days	
34	Stable isotopes of water (O,H) (Isotech)		drinking water		Ice, 4°C		6 months	
35	Turbidity, Nephelometric (180.1)		drinking water		Ice, 4°C		48 hours	
36	2-Methoxyethanol (8015B)		drinking water		Ice, 6°C		7 days	
37	1-methylnapthalene (8270 or equivalent)		drinking water		Ice, 6°C		7 days	
38	Volatiles (TCL plus TICs) (CLP Trace - 0.5 ug/L QL) (OLC03.2) incl. Acrylonitrile		drinking water		2 drops of 1:1 HCl, pH<2, Ice, 6°C		7 days	
39	Note: Analyses will be combined into sample bottles as applicable/appropriate based on determination by lab(s)							
40	KEY:							
41	Celsius		milliliter					
42	C14 = Carbon 14		= Sodium					
43	CLP = Contract Lab		potential					
44	D13C = delta of		QL =					
45	D2H = delta of		Sr =					
46	Acid		Target					
47	density		Tentative					
48	HNO3 = Nitric Acid		microgra					
49	Heterotrophic		paramete					

	I	J	K	L	M
1					
2					
3					
4					
5				Primary/Secondary Procurement Source or Lab	Number
6					
7			Three 40-ml glass vials (Fill to capacity with no head space)	Ft. Meade	3
8			One 500-ml HDPE	Ft. Meade	1
9			One 500-ml HDPE	Ft. Meade	1
10			125 ml Pre-sterilized polypropylene	Tier 4	1
11			one 1-L poly/TBD*	Tier 4	1
12			one 1-L poly/TBD*	Tier 4	1
13			one 1-L poly/TBD*	Tier 4	1
14			one 1-L poly/TBD*	Tier 4	1
15			One 40-ml glass vial	Tier 4	1
16			Three 40-ml glass vials (Fill to capacity with no head space)	Tier 4	3
17			Two 1-Liter amber glass jars with teflon-lined lids		2
18			Three 40-ml glass vials (Fill to capacity with no head space)		3
19			One 1-Liter HDPE	Tier 4	1
20			Three 40-ml glass vials (Fill to capacity with no head space)	Ft. Meade	3
21			One 1-Liter HDPE	Tier 4	1
22			One 1-Liter HDPE	Ft. Meade	1
23			One 1-Liter HDPE	Ft. Meade	1
24			One 500-ml HDPE	Tier 4	1

	I	J	K	L	M
25	Two 1-Liter amber glass jars with teflon-lined lids			Ft. Meade	2
26	One 1-Liter amber glass jars with teflon-lined lids			Tier 4	1
27	One 250-ml HDPE			Ft. Meade	1
28	One 400-ml HDPE			Ft. Meade	1
29	One 1-Liter HDPE			Tier 4	1
30	One 1-Liter HDPE			Tier 4	1
31	Two 1-Liter amber glass jars with teflon-lined lids			Ft. Meade	2
32	One 500-ml HDPE			Ft. Meade	1
33	One 500-ml HDPE			Ft. Meade	1
34	one 1-L poly/TBD*			Tier 4	1
35	One 250-ml HDPE			Tier 4	1
36	Two 1-Liter amber glass jars with teflon-lined lids			Tier 4	2
37	Two 1-Liter amber glass jars with teflon-lined lids			Tier 4	2
38	Six 40-ml glass vials w/Teflon lined cap (no head space)			Ft. Meade	6
39	.				50
40					
41					
42					
43					
44					
45					
46					
47					
48					
49					